BOOK REVIEWS

Population Genetics of Bacteria

Edited by S. BAUMBERG, J. P. W. YOUNG, E. M. H. WELLINGTON and J. R. SAUNDERS. 1995. ISBN 0-521-48052-3. Cambridge University Press. Pp. 348. £55.00 (Hardback).

Perhaps fittingly, this 'book of the symposium' provides an interesting example of convergent evolution in that 16 rather diverse review articles by different authors have become grouped together under the single title *Population genetics of bacteria*. Understanding this subject is an admirable intellectual goal, but is also of practical importance in medical microbiology in terms of elucidating such phenomena as bacterial mutation and variation, the spread of antibiotic resistance genes, and the ways in which certain clonal genotypes seem to be able to acquire new virulence traits and spread geographically. The 16 chapters provide, *inter alia*, a good description of the fundamental processes of genetic mutation, recombination, selection, drift and migration as they are known to apply to bacteria at the present time. Most chapters provide a theoretical treatment of a particular area of the subject, often based on results obtained with model experimental systems, while others provide a more factual review of particular phenomena, such as the spread of drug resistance genes, with varying degrees of success in relating the chapter topic to the title of the book. In general, the production standard is good, but a few of the figures (e.g., those of pp. 135–137) are just a blur of tiny letters without a magnifying glass, while regular readers of the *Journal of Medical Microbiology* will be irritated by the occasional editorial inconsistencies that are sprinkled in the text. For example, on p. 331 alone, we are told that resistance to benzylpenicillin developed 'in the *Staphylococcal* spp.', that various penicillin derivatives have 'good anti-*Staphylococcus* activities', and that the *mec* gene 'spread among *Staphylococcus* species'.

Overall, I think that this book succeeds in outlining the current rather limited state of knowledge of bacterial population genetics, and will, therefore, be of interest to those medical microbiologists who are concerned to understand the possible evolutionary background to the events that they observe on a daily basis in the routine clinical microbiology laboratory. I begrudge paying over £50 for a personal copy of any book unless it is something that I want desperately. This book doesn't fall into that category, but I would recommend it for a library and (as a member of the Society for General Microbiology) obtain a discounted copy for myself.

K. J. TOWNER

The Microbiology and Epidemiology of Infection for Health Science Students

P. MEERS, JUDITH SEDGWICK and MARGARET WORSLEY. 1995. ISBN 0-412-59900. Chapman and Hall, London. Pp. 330. £14.99.

The authors of this book are well known in the field of microbiology and infection control, and the book comple-

ments at least two others published by Chapman and Hall in the area of hospital infection (*Control of Hospital Infection* and *Hospital Infection Control for Nurses*.)

The brief introductory section is followed by sections dealing with host interaction, bacteria, viruses, fungi, parasites and their infections, common infections of body systems, their diagnosis and treatment and a final section on the prevention of infection.

The book has a clear and easily readable text supplemented by extracts adding interest within the main text. The authors correctly point out that 'the study of infection by many of the health care profession forms a small part of a frequently overcrowded curriculum'. The reviewer and colleagues remain uncertain which disciplines within 'care professions' may be considered 'Health Science Students'. The success of this book in fulfilling the requirements of the reader will depend upon their individual disciplines. The microbiology content of the book is insufficient for trainee microbiology scientific officers or medical students but would be adequate for nursing courses including those for trainee Infection Control Nurses. The range of micro-organisms and depth covered is greater than that required for trainees in the therapy services, operating departments, radiography and other paramedical groups but would provide interesting reading.

It is a pity that the final section on prevention of infection is relatively short since a slightly more in-depth account would have covered much of the syllabus and requirements of the groups mentioned above. I enjoyed reading this book and feel that the author's aim 'to provide an overall view of microbiology and epidemiology' has largely been achieved.

M. NOY

Current Topics in Microbiology and Immunology: Measles Virus

Edited by V. TER MEULEN and M. A. BILLETER. 1995. ISBN 3-540-57389-5. Springer Verlag, Berlin. Pp. 196. DM 165.00 (Hard cover).

Although in developed countries measles has been regarded as a mild and vanishingly important disease, last year's vaccination campaign will, I hope, have disturbed this complacency. In developing countries it is estimated that there are 50 million cases of measles annually, resulting in almost a million deaths. The morbidity associated with measles is also great; it potentiates the effects of diarrhoeal disease and other respiratory pathogens.

This book in the series *Current Topics in Microbiology and Immunology* (no. 191), is a timely review of measles and measles virus. There are 11 chapters covering topics such as the clinical expression of measles virus infection, virus structure and replication, virus strain variation, interactions with mononuclear cells, immune response to measles infection and vaccinology. For the enterprising 'do-it-

yourself' aficionado there are also the complete measles virus antigenome and its protein consensus sequences.

The chapters are generally well-written in an easily understandable fashion. The information is relatively up-to-date with 1992, 1993 and occasional 1994 references. This book provides an interesting and useful reference text on measles virus.

C. A. HART

Principles and Practice of Clinical Virology, 3rd edition

J. K. ZUCKERMAN. 1995. ISBN 0-471-931-063. John Wiley and Sons, New York. Pp. 778. £79.95.

This welcome third edition of an excellent virology text is suitable as a reference work for undergraduates, a bedrock text for trainees in medical virology and a valued companion to professional virologists. One of its particularly admirable qualities is a style which is generally clear and easy to read.

The new chapter on herpes simplex expands molecular aspects of virus replication and diagnosis; the section on management has also been extended and brought up to date. The chapter on varicella has been improved by the introduction of clearer diagrams, a more detailed description of the virus genomic organisation, and a longer, but still rather brief, description of varicella and zoster treatment. The new chapter on cytomegalovirus maintains the previous high standard; however, there is no description of the new leucocyte antigen detection test, which is favourably compared with other diagnostic techniques but not described.

The chapter on human herpesviruses (HHV) 6 and 7 has been extended to reflect current increased knowledge and understanding of the biology and clinical manifestations of HHV6. A new section describing the discovery of, and what little is known about, HHV7 is a welcome addition and the brief section about the relationship between the two viruses (or is it three?) offers the reader an opportunity to speculate what the next edition of the book might include about these interesting viruses. However, the book is not without a few weaknesses. I was disappointed to see the continued adjunct of a section on classification and taxonomy of herpesviridae at the beginning; in my view this should form an appendix. To the casual browser these first few pages give an entirely false impression of the book's scope.

The chapter on hepatitis viruses has been restored and the

subdivision of the second edition reversed. I expect that in future there will be a need to devote a full chapter to each of the hepatitis viruses (except possibly, delta), and the editors may wish to consider recruitment of additional authors for this. In my view, to give adequate consideration to such a varied group of viruses within a single chapter of a book at this level is not achievable.

The book has a substantial market in the UK, and the discussion of measles and mumps would be improved if space was devoted to European, and particularly UK, immunisation strategies, instead of only describing immunisation strategies in the USA and third world. On a more positive note, the new chapter on rubella includes more about the molecular organisation of the virus and an up-date on prenatal diagnostic strategies. Omission of the illustration of the single radial haemolysis test perhaps marks the passing of an era as this test follows haemagglutination inhibition into the history books.

Separation of the different virus families within the 'arbovirus' ecological category is a considerable improvement, making the subject much easier for the student to understand and providing a 'user friendly' reference work for the virologist who temporarily forgets whether or not Igbo Ora Virus is part of the Bunyaviridae! Similarly, the separation of VHF agents into their properly separate chapters enables the authors to give a more complete description of these exotic and fascinating viruses and the diseases they cause.

The chapter on human papovaviruses has been happily divided into two, a recognition of the importance of both papilloma and polyoma viruses. The chapter on human retroviruses has been expanded and includes more on both molecular biology and therapeutics. The chapter on human prion disease has been amended to accommodate recent advances and the case histories, which were somewhat out of place in earlier editions, have been omitted.

Overall, the changes introduced in this third edition are improvements; the book has evolved from its beginnings and is better for it. The authors and editors have produced a new and valuable text which those who have the earlier editions will probably wish to acquire. The authors will no doubt be dismayed to reflect that in a few years a new edition will be required to accommodate increasing knowledge in the rapidly changing and exciting field of clinical virology. They may be consoled by the recognition that *Principles and Practice of Clinical Virology* has firmly established itself as a robust and important text, well able to develop along with the subject.

D. WESTMORELAND